

**WHAT IS CLAIMED IS:**

1. A polypeptide having  $\beta$ -fructofuranosidase activity which is obtained by the expression of a microbial gene, which polypeptide contains the amino acid sequences of SEQ ID NO:1 and SEQ ID NO:2 in whole or in part as an amino acid sequence.

2. The polypeptide according to claim 1 which catalyzes fructofuranosyl transfer between a fructofuranosyl donor and a fructofuranosyl acceptor.

3. The polypeptide according to claim 1 which has the following physicochemical properties:

a. Molecular weight

About 44,000-55,000 Daltons in SDS-PAGE;

b. Optimum pH

About 5.5-6.0 when incubated at 40°C for ten minutes;

c. Optimum temperature

About 45°C and about 50°C in the absence of and in the presence of calcium ion, respectively, when incubated at pH 6.0 for ten minutes;

d. pH Stability

Stable at a pH of about 5.0-8.0 when incubated at 4°C for 24 hours; and

e. Thermal stability

Stable up to a temperature of about 45°C when incubated at pH 6.0 for one hour.

4. The polypeptide according to claim 1 which contains the amino acid sequence of SEQ ID NO:3 or a homolog thereof.

5. The polypeptide according to claim 1 wherein is obtained using a microorganisms as a host wherein a gene derived from a microorganisms of the genus *Bacillus* is expressed in said host.

6. A DNA encoding the polypeptide according to claim 1.

7. The DNA according to claim 6 which contains the nucleotide sequence of SEQ ID NO:4 or homologs or complements thereof.

8. The DNA according to claim 6 which contains the nucleotide sequence of SEQ ID NO:5 or homologs or complements thereof.

9. The DNA according to claim 6 which is derived from a microorganism of the genus *Bacillus*.

10. The DNA according to claim 6 which further contains a self-replicable vector.

11. A transformant obtained by introducing into an appropriate host a DNA encoding the polypeptide having  $\beta$ -fructofuranosidase activity which is obtained by the expression of a microbial gene, which polypeptide contains the amino acid sequences of SEQ ID NO:1 and SEQ ID NO:2 in whole or in part as an amino acid sequence.

12. The transformant according to claim 11 wherein said host is a microorganism.

13. A method for fructofuranosyl transfer comprising reacting a fructofuranosyl donor with a fructofuranosyl acceptor in the presence of a polypeptide having  $\beta$ -fructofuranosidase activity which is obtained by the expression of a microbial gene, which polypeptide contains the amino acid sequences of SEQ ID NO:1 and SEQ ID NO:2 in whole or in part as an amino acid sequence, wherein the reaction product is selected from the group consisting of xylosylfructoside, erlose, isomaltosylfructoside, lactosucrose, and fructosyltrehalose.

14. A method for fructofuranosyl transfer comprising reacting a fructofuranosyl donor with a

fructofuranosyl acceptor in the presence of a polypeptide having  $\beta$ -fructofuranosidase activity which is obtained by the expression of a microbial gene, which polypeptide contains the amino acid sequences of SEQ ID NO:1 and SEQ ID NO:2 in whole or in part as an amino acid sequence, wherein 0.1-10 parts by weight of a fructofuranosyl acceptor is reacted with one part by weight of a fructofuranosyl donor at a pH of 3.5-8.0 at a temperature not above 60°C.

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